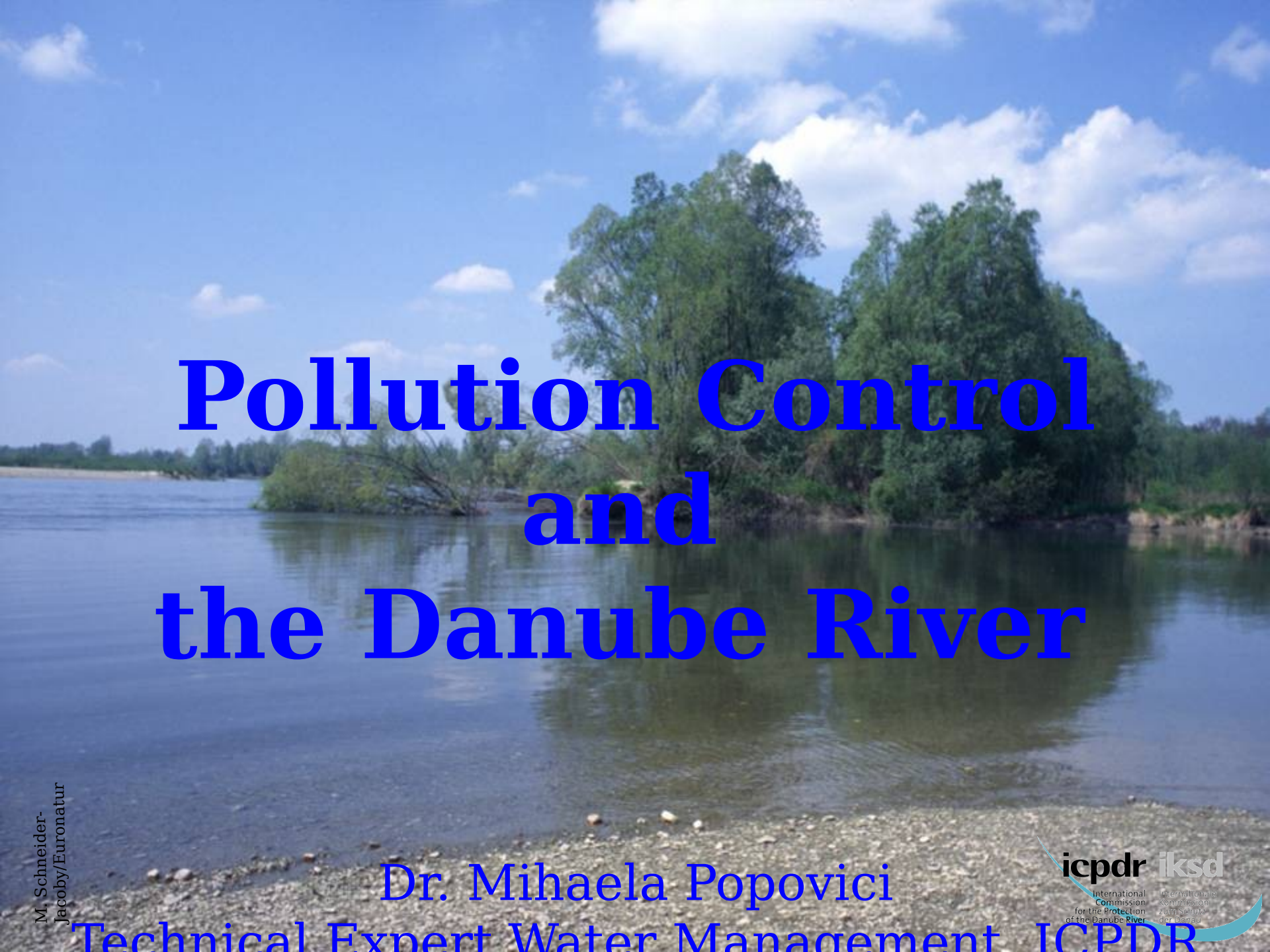


Pollution Control and the Danube River

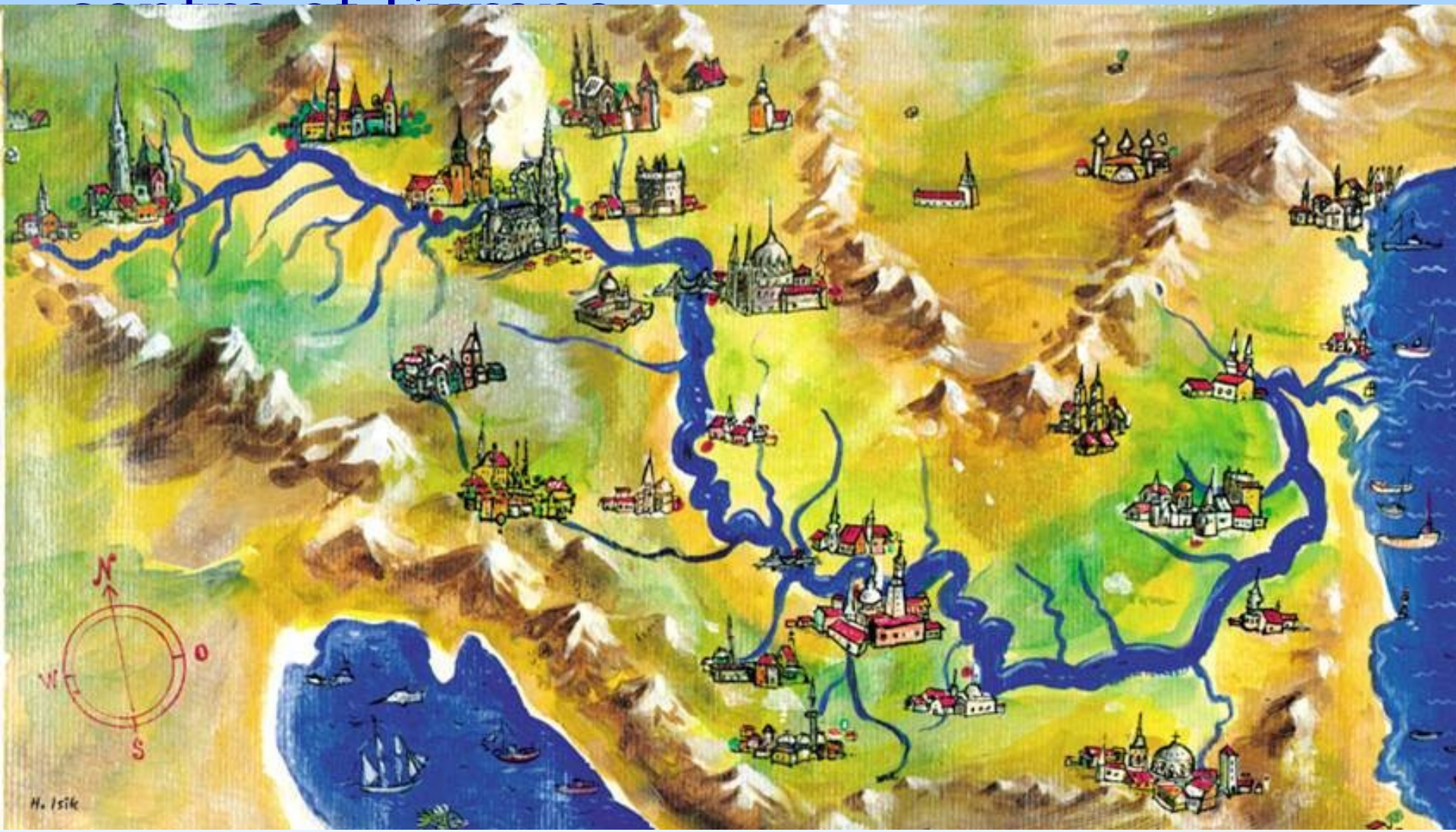
Dr. Mihaela Popovici
Technical Expert Water Management, ICPDR

M. Schneider-Jacoby/Euronatur

Structure of Presentation

- The Danube River Basin
- ICPDR – Joint Action Program
- ICPDR – a Mechanisms for Cooperation
- ICPDR and EU Water Framework Direct
- ICPDR and related projects on pollution

The Danube River Basin, a cultural and historical



The Challenge: The social and economic context in the DRB

- Regional social and economic disparities
- The particular situation of transition countries and the requirements for EU accession

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Objectives and Tasks of the ICPDR

The Danube River Protection Convention

A legal frame for co-operation to assure the protection of water and ecological resources and their sustainable use in the Danube River Basin

Danube River Protection Convention OBJECTIVES

- Ensure sustainable and equitable water management;
- Ensure conservation, improvement and the rational use of surface waters and ground water;
- Control discharge of waste waters, inputs of nutrients and hazardous substances from point and non-point sources of emissions;
- Control floods and ice hazards;
- Control hazards originating from accidents (warning and preventive measures);
- Reduce pollution loads of the Black Sea from sources in the Danube catchment area.

Mechanisms of Cooperation

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CONFERENCE OF THE PARTIES

International Commission for the Protection of the Danube River (ICPDR)

- Implementation of Danube River Protection Convention (DRPC)
- Decision making, management and coordination of regional cooperation
- Approval of the budget and annual work programme
- Follow up of activities and evaluation of results from Expert Groups
- Joint Action Programme

Permanent Secretariat (PS)

- Supporting the ICPDR sessions
- Supporting the Expert Groups (and PMTF)
- Co-ordinating the work programme
- Supporting project development and implementation
- Maintenance of the Information System

UNDP/GEF Danube Regional Project

- Creation of sustainable ecological conditions for land use and water management
- Capacity building and reinforcement of trans-boundary cooperation
- Strengthening public involvement in environmental decision making
- Reinforcement of monitoring, evaluation and Information System

ad-hoc Strategic Expert Group (S / EG)

- Strategic issues
- Legal issues
- Administrative and financial issues

River Basin Mgmt (RBM / EG)

- Integrated river basin management
- Implementation of EU Water Framework Directive

Ecology (ECO / EG)

- Habitats and species protection areas
- Management of wetlands and floodplains

Emissions (EMIS / EG)

- Emissions from point sources
- Emissions from diffuse sources
- Guidelines on BAT

Monitoring, Laboratory & Information Mgmt (MLIM / EG)

- Trans-National Monitoring Network (TNMN)
- Laboratory Quality Assurance

Accident Prevention & Control (APC / EG)

- Accidental pollution incidents
- AEWS operations
- Accident prevention

Flood Protection (FLOOD / EG)

- Preparation and Implementation of the Action plan for sustainable Flood protection

GIS ESG

Econ ESG

WG on Sava RBM Plan

Danube/ Black Sea JTWG

EMIS MLIM JTWG

WG Inventories

IHP Water Balance WG

- Preparation of the Water Balance

ICPDR Policies & Actions

The Joint Action Programme

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Policies and Strategies of the JAP

- River Basin Management and implementation of the EU Water Framework Directive;
- Emission inventory and pollution reduction;
- Restoration of wetlands and flood plains;
- Transnational Monitoring Network (TNMN)
- Priority substances / recommendations on BAT & BEP;
- Accident warning system (AEWS) and prevention;
- Flood control and sustainable flood prevention;
- Domestic and basin wide water balance.

Investments and expected results

(Joint Action Programme / Five Years Nutrient Reduction Plan)

Investments:

- **Municipal waste water collection & treatment: 3.709 billion USD**
- **Industrial waste water treatment: 0.276 billion USD**
- **Agricultural projects and land use: 0.113 billion USD**
- **Rehabilitation of wetlands: 0.323 billion USD**

Nitrogen reduction:

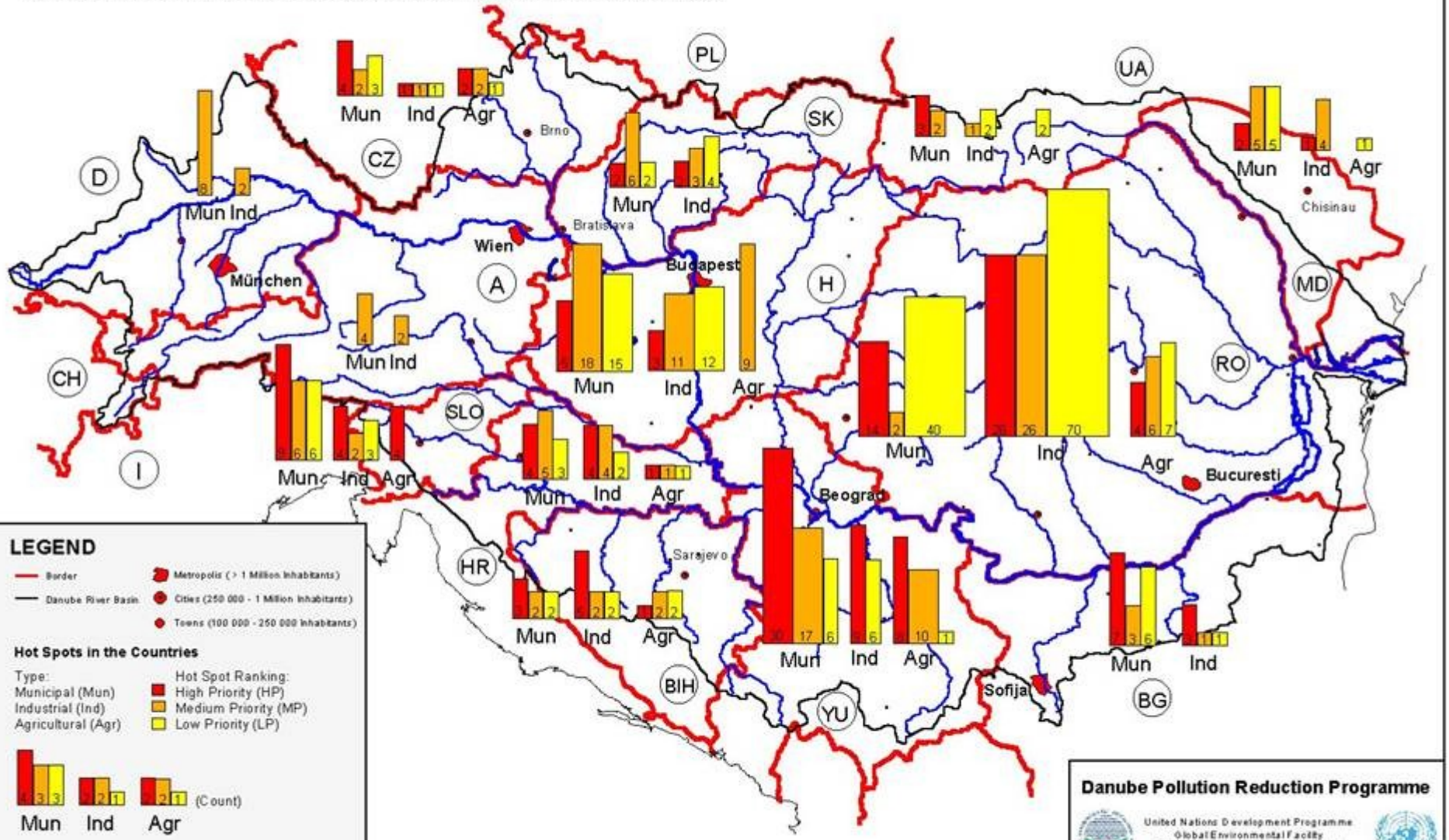
- **from point sources : 58,600 t/y**
- **from diffuse sources : 60,000 t/y**
- **total emission reduction : 22 %**

Phosphorus reduction:

- **from point sources : 12,000 t/y**
- **from diffuse sources : 4,000 t/y**
- **total emission reduction : 33 %**

Map 8: Hot Spots in the Danube Basin Countries

Based on National Planning Workshop Reports 1998, Updates March 1999



LEGEND

- Border
- Danube River Basin
- Metropolis (> 1 Million Inhabitants)
- Cities (250 000 - 1 Million Inhabitants)
- Towns (100 000 - 250 000 Inhabitants)

Hot Spots in the Countries

Type:
Municipal (Mun)
Industrial (Ind)
Agricultural (Agr)

Hot Spot Ranking:
High Priority (HP)
Medium Priority (MP)
Low Priority (LP)

(Count)

Mun Ind Agr

50 0 50 100 150 Kilometers

Scale: 1: 4 500 000

N

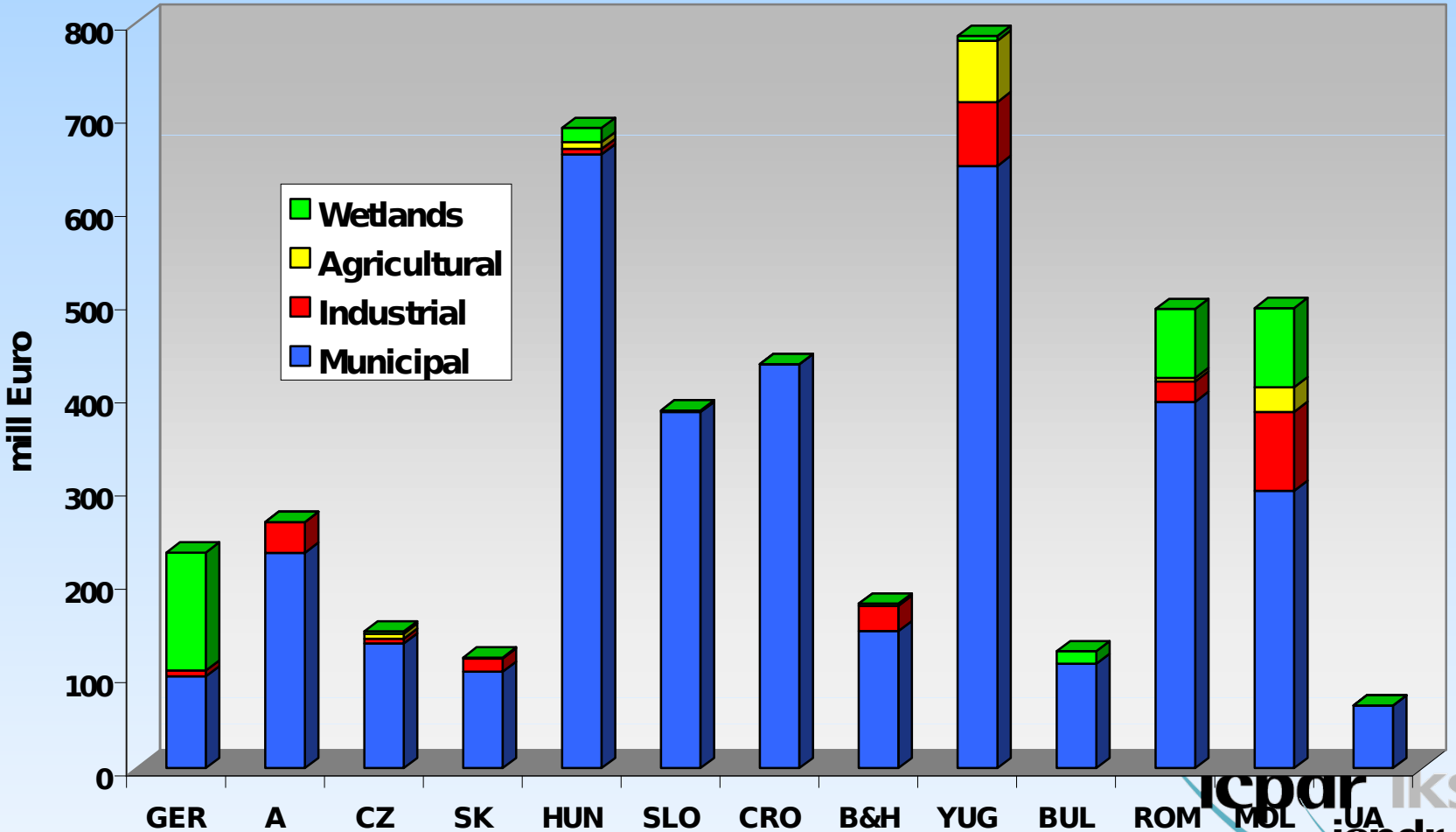
Danube Pollution Reduction Programme

United Nations Development Programme
Global Environmental Facility
ICPDR - Programme Coordination Unit
1400 Vienna, P.O. Box 500, Austria

Produced by ZINKE ENVIRONMENT CONSULTING
for Central and Eastern Europe, Vienna, 1999
(Cartography by U.SCHWARZ)

Total Investment Costs for Proposed Projects

(Joint Action Programme / Five Years Nutrient Reduction Plan)



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Cooperation with the Black Sea Commission

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Map Credit:
Design Unit
of the World Bank

Downstream linkages to estuaries, coastal zones and the Black Sea.

Black Sea Convention

The Black Sea Convention provides the legal base for the concerted actions of the Black Sea coastal states in fulfilling their commitment to protect and to rehabilitate the Black Sea and its ecosystem.

Memorandum of Understanding

between the International Commission for the Protection of the Black Sea (ICPBS) and the International Commission for the Protection of the Danube River (ICPDR) on Common Strategic Goals

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Common Strategic Goals

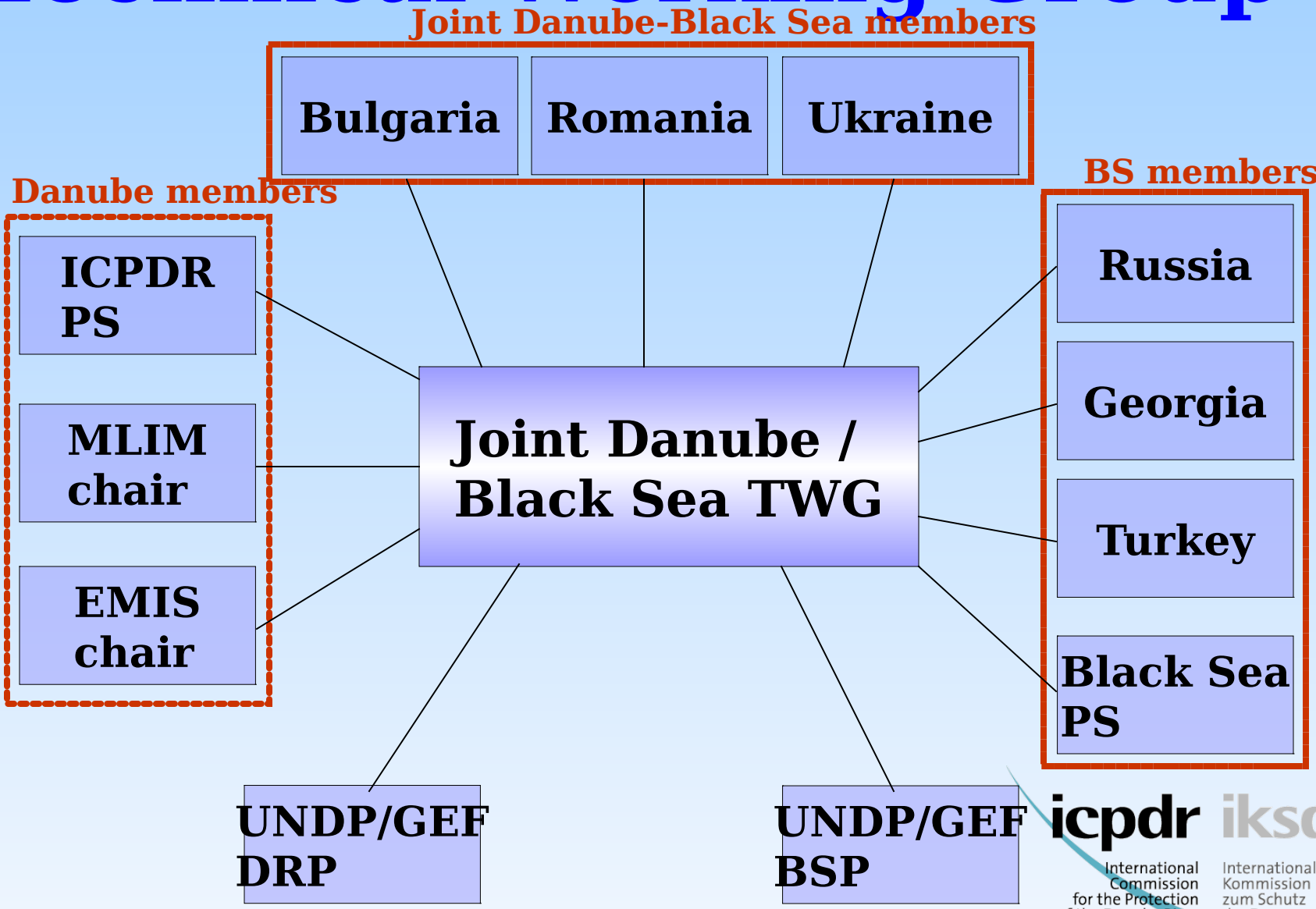
a) Long-term Goal: to permit Black Sea ecosystems to recover to conditions observed in 1960s

b) Intermediate Goal: to avoid nutrients load exceeding those in the mid of 1990s

c) Comparable Assessment: the inputs of nutrients and hazardous substances have to be assessed in a comparable way

d) The Ecological Status: The ecological status of the Black Sea and the Sea of

Joint Danube / Black Sea Technical Working Group



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JTWG Danube-Black Sea Work Programme

- **Assessment of existing monitoring systems (BSC area)**
- **Development of monitoring programme (BSC area)**
- **Development of ecological status indicators (BSC area)**
- **Assessment of pollution (causes) in the BSC area and of the ecological status of the Black Sea**
- **Development of reporting formats**
- **Recommendations to limit discharge of**

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The Implementation of the EU Water Framework Directive in the Danube River Basin

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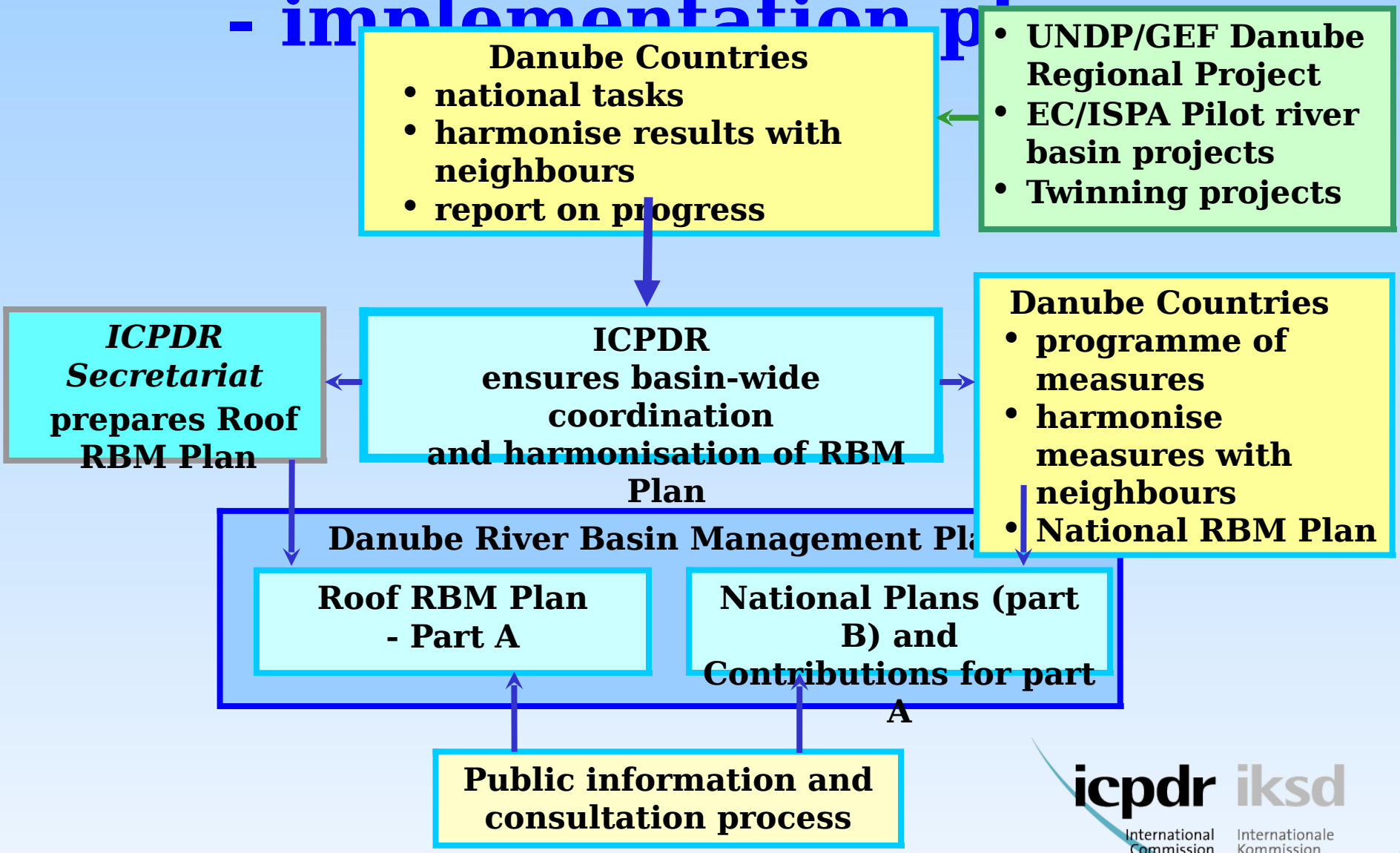
Development of the Danube RBM Plan
- implementation pl


Danube Countries
• national tasks
• harmonise results with neighbours
• report on progress
• UNDP/GEF Danube Regional Project
• EC/ISPA Pilot river basin projects
• Twinning projects
ICPDR Secretariat prepares Roof RBM Plan
ICPDR ensures basin-wide coordination and harmonisation of RBM Plan
Danube Countries
• programme of measures
• harmonise measures with neighbours
• National RBM Plan
Danube River Basin Management Pla
Roof RBM Plan - Part A
National Plans (part B) and Contributions for part A
Public information and consultation process

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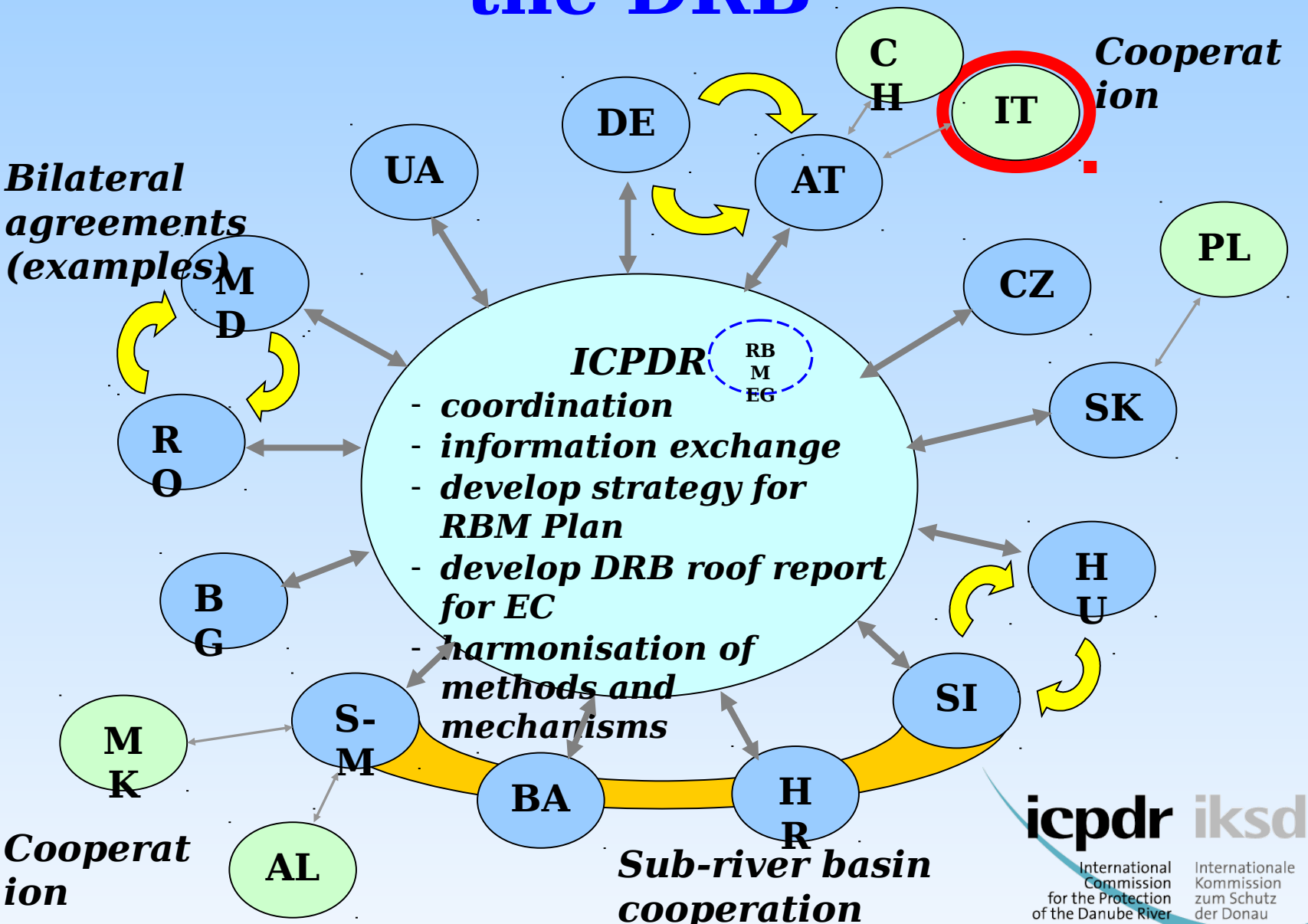
Coordination Mechanisms in the DRB



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Development of the Danube RBM Plan - preparation phase

European Commission

- **Common Implementation Strategy**
- **Guidance documents**

ICPDR

- **Strategy for development of RBM Plan**
- **Delimitation of the DRB District (including the coastal waters of the Black Sea)**
- **Development of issue papers and preparatory studies on special DRB topics**
  - ✓ economic analysis
  - ✓ transboundary issues
  - ✓ public participation
  - ✓ Danube GIS & mapping criteria
  - ✓ typology & reference conditions of water bodies
  - ✓ artificial and heavily modified water bodies
  - ✓ significant pressures and impacts
  - ✓ effects from human activities on ground

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PROJECTS

- UNDP GEF Danube Regional Project
- EU DABLAS
- MONERIS
- daNUbs

UNDP/GEF Support for the Implementation of the EU

Water Framework Directive

Key elements of analysis

- Surface & Groundwater analysis
- Agricultural diffuse source poll.
- Industrial pollution
- Land use & wetland rehabilitation
- Economic tools for water mgm

Support activities

- Public Participation & NGO development
  - NGOs (DEF)
- Communication & information
- GIS / cartography

Danube Regional Project UNDP GEF

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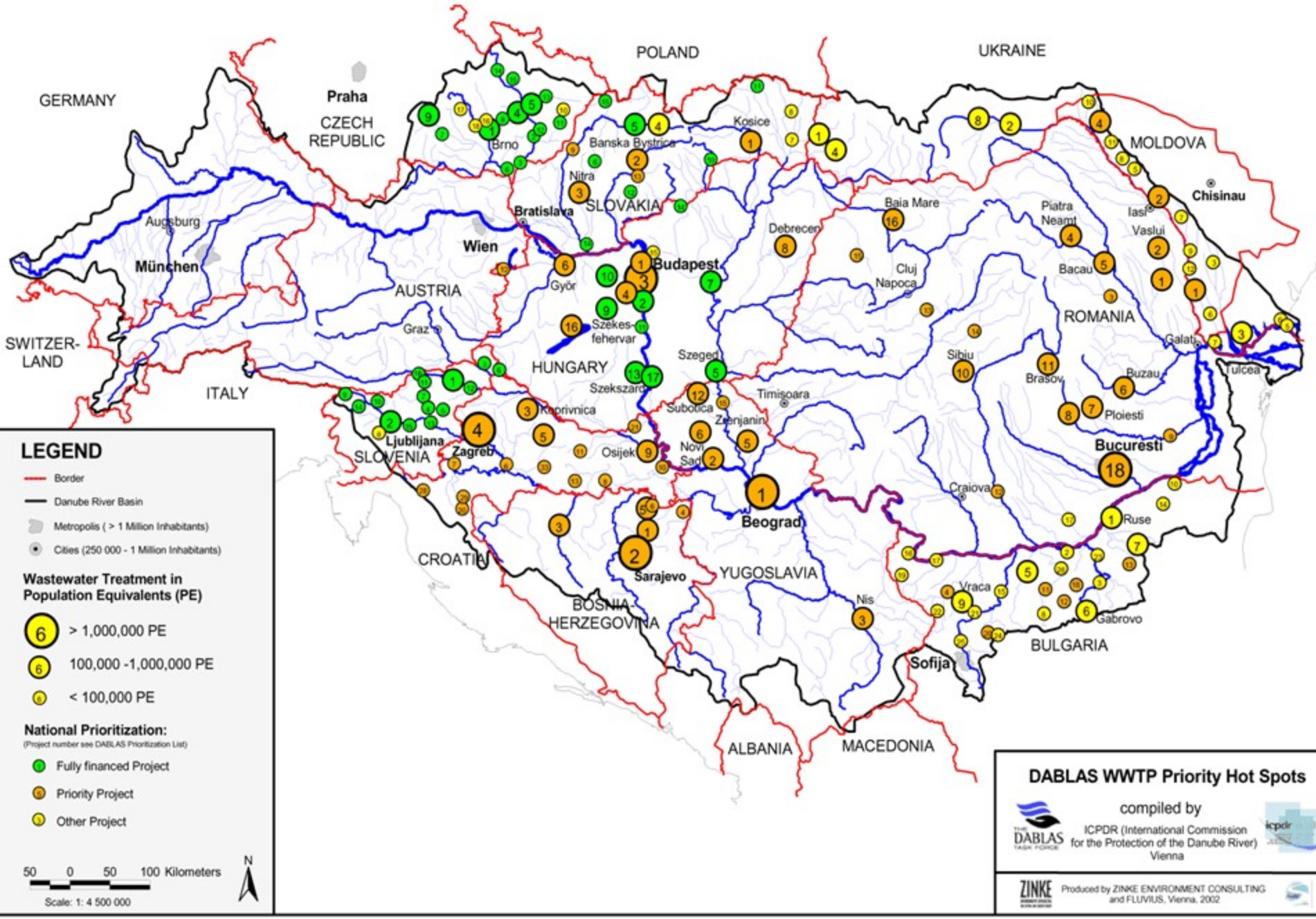
DABLAS Task Force PROJECT OBJECTIVE

The objective was to develop an operational database for the prioritisation of municipal wastewater treatment projects in the 11 Danube River Basin countries.

Municipal Wastewater Treatment Projects - DABLAS Prioritization List



LEGEND

- Border
- Danube River Basin
- Metropolis (> 1 Million Inhabitants)
- Cities (250 000 - 1 Million Inhabitants)

Wastewater Treatment in Population Equivalents (PE)

- > 1,000,000 PE
- 100,000 -1,000,000 PE
- < 100,000 PE

National Prioritization:

(Project number see DABLAS Prioritization List)

- Fully financed Project
- Priority Project
- Other Project

50 0 50 100 Kilometers

Scale: 1: 4 500 000

N

DABLAS WWTP Priority Hot Spots

compiled by

ICPDR (International Commission for the Protection of the Danube River) Vienna

Produced by ZINKE ENVIRONMENT CONSULTING and FLUVIUS, Vienna, 2002

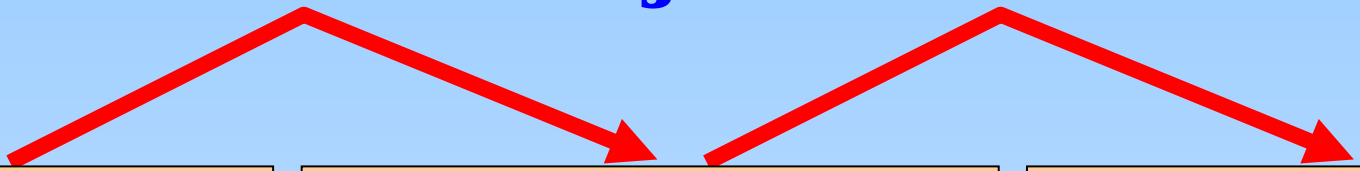
Emission reduction in municipal wastewater treatment plants

Emission reduction in municipal wastewater treatment plants

In the frame of the EU DABLAS project, selected Danube countries have indicated a total of 45 municipal investments projects (wastewater treatment plants) with a total investment cost of 622.6 Mio. EUR. The total reduction of BOD, COD, total nitrogen and total phosphorus in tons per year is presented in the table below.

Country	Total Projects	Total Investments (Mio. EUR)	Reduction BOD (t/a)	Reduction COD (t/a)	Reduction Tot-N (t/a)	Reduction Tot-P (t/a)
Czech Republic	14	156.0	170	106	856	47
Hungary	9	142.3	9,231	20,126	1,802	442
Slovak Republic	7	41.6	1,143	1,650	295	61
Slovenia	15	282.7	25,265	42,461	4,293	709
Sum	45	622.6	35,809	64,343	7,246	1,259

daNUbs Project CONCEPT



Emissions

AGRICULTURE

NUTRITION

LIFESTYLE

ECONOMY

Danube Basin

DISPOSAL

TRANSPORT

TRANSFORMATION

STORAGE

Black Sea

EUTROPHICATION

N **P**

Si?

SOCIO ECONOMIC ASPECTS

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ICPDR Expectations towards on-going projects results

- **Support for the policy advice to the governments on the need to invest in nutrient reduction projects.**
- **Which are the driving forces and responses of the marine systems to the changes**
- **How the nutrient reduction measures will change the status of the Black Sea ecosystem**
- **Which are the criteria to assess the environmental improvements in the Black Sea**
- **Filling the gaps of database on pollutants as to allow the assessment of causes, state and development of eutrophication in Black Sea**

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ICPDR role to enhance Danube countries' capacity to respond effectively to reducing pollution

- assists governments to identify priorities for action to guide the transition to lower values for industrial and municipal discharges and to encourage cost-effective actions to limit emissions over time

- encourages industry and agriculture to take proactive measures to reduce releases

- allows for tracking of progress in reducing releases

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Thank you for your attention!

Further information:

www.icpdr.org

WWF DCP

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